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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,901	12/17/2003	Boris A. Maslov	544092000122	4049
26633	7590	10/17/2007		
HELLER EHRMAN LLP 1717 RHODE ISLAND AVE, NW WASHINGTON, DC 20036-3001			EXAMINER COLON SANTANA, EDUARDO	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 10/17/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/736,901	<b>Applicant(s)</b> MASLOV ET AL.	
	<b>Examiner</b> Eduardo Colon Santana	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)                |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application      |
| Paper No(s)/Mail Date _____  | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

**DETAILED ACTION**

1. Applicant's response filed on 6/28/2007 have been received and entered in the case.
2. Applicant's responses with respect to the claims have been considered but they are not persuasive. See Response to Arguments below.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable and obvious over Schmitz et al. U.S. Patent No. 6,622,804 in view of Heidelberg et al. U.S. Patent No. 4,754,207 and further in view of Li U.S. Patent No. 6,278,216.

Referring to claims 1, 5 and 8, Schmitz et al. discloses an electric vehicle having two or more wheels and one or more electric motors and/or generators (50, 60), but does not explicitly describe that the at least one motor and/or generator is an adaptive electric machine in which two or more electromagnetic power circuits are sufficiently isolated to substantially eliminate electromagnetic and electrical interference between the circuits and have no electrical connection to each other. However, Heidelberg et al. discloses a

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rotary electric motor having an electromagnet with adjacent groups of electromagnets having different switching phases (electromagnetic circuits) (see figure 1 and respective portions of the specifications). Heidelberg further discloses that the electric motor includes a stator (6) and rotor (4), wherein the stator comprises a plurality of stator core elements (12) being arranged in groups (22), being associated with a corresponding one of the phases (electromagnetic circuits) of the electric motor (see Col. 2, lines 22-33). Additionally, Heidelberg et al. clearly describes each of the groups being structurally separated and having magnetic material magnetically isolated and separated from other groups (see figure 1 and Col. 2, lines 17-25). In addition Li mentions the use of a motor control system (figure 12) having a processor (MPU), which obviously would be dynamically adapted to any user inputs (i.e. speed, brake, etc.); any operating conditions (i.e. temperature) and any operating parameter (i.e. torque, current, voltage) to form an adapted control scheme.

Since Schmitz et al., Heidelberg et al. and Li are in the same field of endeavor, the purpose disclosed by Heidelberg and Li would have been recognized in the pertinent art of Schmitz et al.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have each phase controlled independently of each others phase by a controller as taught by Li within the teaching of Heidelberg et al. for the application of an adaptive electric vehicle for the purpose of reducing switching losses and to

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reconfigure each motor phase winding at various operating modes, optimizing the speed of the motor at different loads (dynamic selection) to increase efficiency.

As to claim 11, the method steps are obvious in the product structure of claims 1, 5 and 8 above.

Referring to claims 2-4, 6, 7 and 8-10, Schmitz et al. discloses in figure 1, an internal combustion engine (ICE) 300 connected to an electric generator (310) arranged in a series hybrid configuration. It would have been obvious to also include a fuel cell arranged in a series hybrid configuration, since this is a well-known additional source to produce electricity from external supplies of fuel and oxidant (i.e. Hydrogen as fuel and oxygen as oxidant).

As to claims 9 and 10, Schmitz et al. discloses in figure 3, an electric motor 50 and 60, each having electromagnetic circuits (phases) being powered by its own power supply ( $U_B$ ). In addition depicts an internal combustion engine (ICE) (300), a central controller (200) which controls the operation of the motors, battery and the ICE and has a master control panel and programmable logic controller which gets the input from an onboard user interface (not shown) but obviously part of the design.

#### ***Response to Arguments***

4. Applicant's arguments filed on 6/28/2007 have been fully considered but they are not persuasive.

It is believed that the prior art of record reads on the claims as they have been presented.

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Regarding applicant's remarks that the applied references, alone or in combination fail to show, describe, teach or suggest an electric car or vehicle having an adaptive electric machine with two or more electromagnetic power circuits, that are sufficiently isolated to substantially eliminate electrical interference and having no electrical connection is not persuasive. The office action clearly points out that Schmitz et al. and Li discloses an electric vehicle having at least one electric motor that as describe by Li is capable of being dynamically adaptive. On the other hand, Heidelberg et al. states in the office action that figure 1 depicts a plurality of stator core elements (12) being arranged in groups (22), being associated with a corresponding one of the phases (electromagnetic circuits) (emphasis added) of the electric motor (see Col. 2, lines 22-33) and that as depicted in figure 1, each of the groups are structurally separated and having magnetic material (Col. 9, lines 20-32) magnetically isolated and separated from other groups, which can substantially eliminate electromagnetic and electrical interference, because no electrical connection exist between them (see figure 1 and Col. 2, lines 17-25).

With regards to applicant's confusion or misunderstanding that "Mongeau" was mention in the previous office action, it appeared to be a typographical error that was corrected to say "Li" instead. Nowhere in the rejection was the reference to Mongeau listed as a patent that was use in the prior rejection dated 12/28/2006.

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**Conclusion**

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

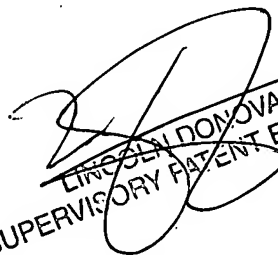
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eduardo Colon Santana  
Patent Examiner  
Art Unit 2837

ECS  
October 01, 2007



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SUPERVISORY PATENT EXAMINER